What Is Claimed Is:

1. A method for transferring a gene into target cells using a retrovirus, comprising culturing target cells in a medium that contains Fe at a lowered concentration before the target cells are contacted with the retrovirus.

2. The method according to claim 1, wherein target cells are cultured in a medium that contains deferoxamine before the target cells are contacted with the retrovirus.

3. A method for increasing activity of binding a peptide or a protein to a retrovirus, comprising chemically modifying a peptide or a protein.

4. The method according to claim 3, which comprises treating the peptide or the protein with a water soluble carbodiimide.

5. The method according to claim 4, which comprises treating the peptide or the protein with a water-soluble carbodiimide and a diamino compound.

6. The method according to claim 3, wherein the peptide or the protein is selected from the group consisting of fibronectin, fibroblast growth factor and collagen type V, as well as fragments thereof and substances having an equivalent activity of binding to the retrovirus thereto.

7. A functional substance having an activity of binding a retrovirus which contains a peptide or a protein treated by the method according to claim 3.

8. A method for transferring a gene into target cells, comprising infecting target cells with a retrovirus in the presence of the functional substance having an activity of binding a retrovirus according to claim 7.

9. The method according to claim 4, wherein the peptide or the protein is selected from the group consisting of fibronectin, fibroblast growth factor and collagen type V, as well as fragments thereof and substances having an equivalent activity of binding to the retrovirus thereto.

10. The method according to claim 5, wherein the peptide or the protein is selected from the group consisting of fibronectin, fibroblast growth factor and collagen type V, as well as fragments thereof and substances having an equivalent activity of binding to the retrovirus thereto.

11. A functional substance having an activity of binding a retrovirus which contains a peptide or a protein treated by the method according to claim 10.

12. A method for transferring a gene into target cells, comprising infecting target cells with a retrovirus in

the presence of the functional substance having an activity of binding a retrovirus according to claim 11.

13. A method for gene therapy, comprising,

(1) contacting a solution containing a retrovirus with a functional substance that binds to the retrovirus and being immobilized on a substrate for 3 hours or longer;

(2) washing the substrate to which the retrovirus is bound;

(3) contacting and incubating the substrate to which the retrovirus is bound with target cells collected from a donor; and

(4) transplanting the cell obtained tin step (3) into a recipient.

14. A method for gene therapy, comprising,

(1) contacting a solution containing a retrovirus with a functional substance that binds to the retrovirus and being immobilized on a substrate;

(2) washing the substrate to which the retrovirus is bound;

(3) contacting and incubating the substrate to which the retrovirus is bound with target cells collected from a donor; and

(4) transplanting the cell obtained in step (3) into a recipient, wherein the frequency of contact between the retrovirus and the functional substance that binds to the retrovirus is physically increased in step (1).

15. The method according to claim 14, wherein step (1) is carried out by precipitating the retrovirus by centrifugal force onto the functional substance that binds to the retrovirus and being immobilized on a substrate.

16. The method according to claim 14, wherein the functional substance that binds to the retrovirus has an activity of binding to the target cells.

17. The method according to claim 14, wherein the substrate on which the functional substance that binds to the retrovirus and another functional substance that binds to the target cells are immobilized is used.

18. The method according to claim 17, wherein a vessel for cell culture or a particulate substrate is used as the substrate.

19. The method according to claim 14, wherein the solution containing the retrovirus is a culture supernatant of retrovirus producer cells obtained in the presence of a substance that enhances retrovirus production.

20. The method according to claim 19, wherein the solution containing the retrovirus is a culture supernatant obtained in the presence of sodium butylate.

21. A method for gene therapy, comprising,

(1) infecting target cells collected from a donor with a retrovirus in the presence of two functional substances;

a) a functional substance that binds to the retrovirus; and

b) an antibody which specifically binds to a CD antigen expressed on the target cells; and

(2) transplanting the cell obtained in step (1) into a recipient.

22. A method for gene therapy, comprising,

(1) infecting target cells collected from a donor with a retrovirus in the presence of two functional substances;

a) a functional substance that binds to the retrovirus; and

b) a sugar chain derived from laminin or a high mannose type sugar chain; and

(2) transplanting the cell obtained in step (1) into a recipient.

23. The method according to claim 22, wherein the functional substance that binds to the retrovirus has an activity of binding to the target cells.

24. The method according to claim 22, wherein at least one functional substance is immobilized on a substrate.

25. The method according to claim 24, wherein a vessel for cell culture or a particulate substrate is used as the substrate.

26. The method according to claim 22, wherein the recipient is the donor itself.

27. The method according to claim 22, wherein the target cells are hematopoietic stem cells.

28. The method according to claim 22, wherein the functional substance which binds to retrovirus is selected from the group consisting of fibronectin, fibroblast growth factor, collagen type V, polylysine and DEAE-dextran, as well as fragments thereof.

29. The method according to claim 13, wherein the functional substance that binds to the retrovirus has an activity of binding to the target cells.

30. The method according to claim 13, wherein the substrate on which the functional substance that binds to the retrovirus and another functional substance that binds to the target cells are immobilized is used.

31. The method according to claim 30, wherein a vessel for cell culture or a particulate substrate is used as the substrate.

32. The method according to claim 13, wherein the solution containing the retrovirus is a culture supernatant of retrovirus producer cells obtained in the presence of a substance that enhances retrovirus production.

33. The method according to claim 32, wherein the solution containing the retrovirus is a culture supernatant obtained in the presence of sodium butylate.

34. The method according to claim 21, wherein the functional substance that binds to the retrovirus has an activity of binding to the target cells.

35. The method according to claim 21, wherein at least one functional substance is immobilized on a substrate.

36. The method according to claim 35, wherein a vessel for cell culture or a particulate substrate is used as the substrate.

37. The method according to claim 21, wherein the recipient is the donor itself.

38. The method according to claim 21, wherein the target cells are hematopoietic stem cells.

39. The method according to claim 21, wherein the functional substance which binds to retrovirus is selected from the group consisting of fibronectin, fibroblast growth factor, collagen type V, polylysine and DEAE-dextran, as well as fragments thereof.

40. The method according to claim 13, wherein the recipient is the donor itself.

41. The method according to claim 13, wherein the target cells are hematopoietic stem cells.

42. The method according to claim 13, wherein the functional substance which binds to retrovirus is selected from the group consisting of fibronectin, fibroblast growth factor, collagen type V, polylysine and DEAE-dextran, as well as fragments thereof.

43. The method according to claim 14, wherein the recipient is the donor itself.

44. The method according to claim 14, wherein the target cells are hematopoietic stem cells.

45. The method according to claim 14, wherein the functional substance which binds to retrovirus is selected from the group consisting of fibronectin, fibroblast growth factor, collagen type V, polylysine and DEAE-dextran, as well as fragments thereof.